Spontaneous neonatal rectal perforation: A case for primary closure.

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ABSTRACT

Spontaneous perforation of the gastrointestinal tract in the neonate is rare. When it occurs it usually involves the stomach or the ileocaecal region. Perforation of the rectum in the neonate is usually caused by instruments being passed into it. We are hereby reporting a rare case of idiopathic rectal perforation and was successfully managed by primary closure.

Key words: metastasis Idiopathic Rectal Perforation , Pneumoperitonium

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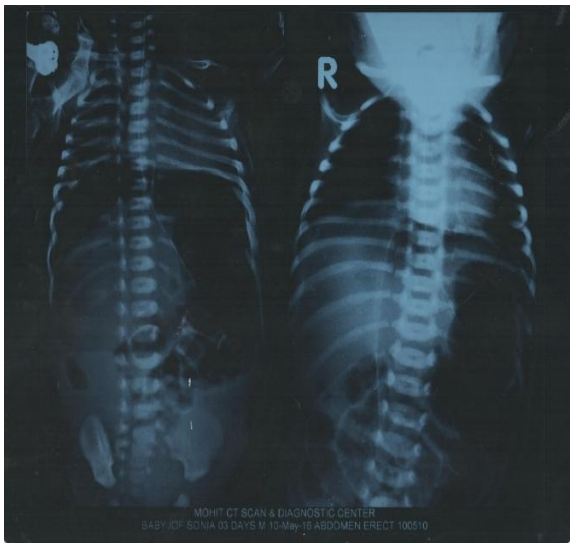
INTRODUCTION

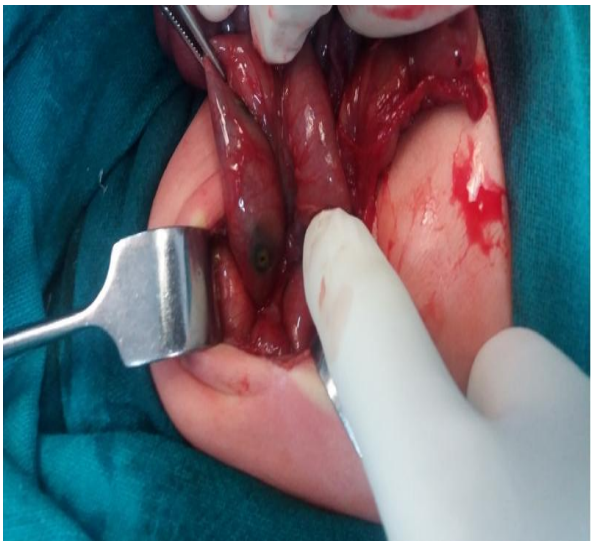
Intestinal perforation leading to pneumoperitoneum is a recognized complication during neonatal period [1]. Most commonly, it is either spontaneous (idiopathic) or following necrotizing enterocolitis [2,3]. Rectal perforation commonly occurs because of mechanical distal obstruction like anorectal anomalies , Hirschsprung disease or injury by rectal thermometer or enema tube [4,5]. However when it occurs without known etiological factor such as injury, iatrogenic cause, inflammatory disease and distal obstruction then it is defined as idiopathic[6] . The management of the rectal perforation is usually tailored as diverting proximal colostomy with or without dealing with the perforation at the same setting. Is it necessary to do diverting colostomy in all cases of rectal perforations? Herein we are reporting a rare case of idiopathic perforation of rectum leading to peritonitis and was managed by primary closure.

CASE REPORT

A 3 day old full term male weighing 2.8 kg born to primigravida mother through normal delivery presented in pediatric emergency with complaints of abdominal distention for last 2 days. Antenatal period was uneventful. Baby cried immediately after birth . He has not passed stools since birth till day 2 of life but passing urine normally. Baby has received top feeding after birth and there was no history of rectal instrumentation . Baby was sick,

hypothermic, lethargic with tachycardia, tachypnea with feeble pulses. Hematological investigations showed normal complete hemogram with raised CRP, electrolytes were normal. X Ray abdomen revealed massive pneumoperitonium (Fig1). After initial stabilization and resuscitation, exploratory laprotomy was done.Operative findings included fecal peritonitis with a 0.5 cm wide perforation on the anterior rectal wall about 1.5cm above the peritoneal reflection (Fig2). Peroperative informed consent was taken and parents were informed of the benefits and risks of primary closure versus diverting colostomy. Afterwards the primary closure of perforation was done and muscle biopsy from sigmoid colon for ganglion cells was done and Hirschsprung,s disease was ruled out. Post operative recovery was uneventful. At follow up the baby has normal growth and development.





DISCUSSION

Spontaneous rectal perforation in a neonate not born with anorectal malformation is unknown, however, iatrogenic perforations of the rectosigmoid with its complications are frequent [7]. These can caused by incorrect use of rectal cannula, Hegar dilator , thermometer [5,8] etc. Even therapeutic saline enemas and diagnostic barium enemas have been implicated as a cause for rectal perforations.[5] The exact cause of rectal perforation in the index case is not known.

Idiopathic intra-peritoneal perforation of rectum in newborn is extremely rare. There are very few cases reported in literature[6] .The suggested pathogenesis for colorectal perforations is : hypothesis of mechanical injury, the presence of muscular defects in the wall of the colon, infection to a Schwartzman phenomenon, necrosis and perforation by meconium plugs, and perforation of colon by necrotizing bacterial enterocolitis or ischemic necrosis, secondary to a localized vascular accident. Also congenital segmental absence of intestinal wall musculature is another proposed etiologic factor to explain idiopathic neonatal intestinal perforations [9,10].

Idiopathic rectal perforation in the newborn is often difficult to diagnose clinically. The clinical symptoms and signs in such cases include vomiting, sepsis, cyanosis, tachypnea, respiratory distress, and significant abdominal and scrotal distension; however, none of these is pathognomonic. for idiopathic colorectal perforation. Radiographic evaluation may allow earlier diagnosis and prompt surgical treatment. In the presence of a massive pneumoperitoneum in a neonate, both gastric and colonic perforation should be considered . The abdominal upright film will show the "saddle" or "football" sign due to massive pneumoperitoneum [1,3]. In the present case there was massive pneumoperitoneum however rectal perforation was confirmed only after operation. Similarly in a study conducted by Ostruk et al showed abdominal roentgenograms of all infants' demonstrated a pneumoperitoneum and viscus organ perforation, and the surgery made the diagnosis of colon perforation in all cases. The average duration between perforation and operation was about 4 days.[10]

The treatment of idiopathic rectal perforation is operative. A primary closure or a diverting colostomy is the option of surgical treatment . The primary closure of rectal perforation should be done in patients having favourable local anatomy (intraperitoneal location), good birth weight, without any history of ischaemic insult (birth asphyxia) and early presentations as has been done in the present case . The advantage of primary closure is definitive management in one stage as well as avoiding the stoma complications. However the risk of reoperation should be kept in mind in the event of blow out of the perforation or any concomitant disease .

In conclusion the authors argue for primary closure of the idiopathic neonatal rectal perforation and diverting colostomy should be reserved only for high risk cases .But an informed consent must be taken from the relatives so as to justify the present surgical approach.

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